

The Groundplane



Join SBARA members for a pre-meeting dinner at Sweet Tomatoes at 6PM — Everyone Invited!

President's Message — By Andy Romeril, KG6MDS

Happy New Year! I want to thank all the members, family and friends who attended the SBARA Holiday Potluck at the December meeting. Over 25 people attended and everyone enjoyed an evening of good food and warm holiday spirit. Special thanks go to the Rendon's for preparing the turkey.

As the incoming President, I wish to express my gratitude to both the "outgoing" and "ongoing" board members whose tireless efforts have helped build SBARA into a vibrant, growing community for local amateur radio enthusiasts, their families and friends. I look forward to continuing the tradition of service that they exemplify.

Looking ahead to the New Year, there are a lot of exciting activities for the club's participation. Some of the traditional ones that come to mind are our monthly meetings with the ever-popular pre-meeting dinner, informative presentations by engaging speakers, workshops, contests, and of course, the annual Field Day event.

The board would like to hear from the membership regarding YOUR ideas for projects and activities to round out our calendar. Feel free to send me (kg6mds@arrl.net) or another board member an email or talk to one of us at a meeting about your favorites. I'll have a few of my own to throw in to the hat as well.

I look forward to a year of fun and fellowship with all of you.

73, Andy KG6MDS

January Program

This month we will have the opportunity to find out what the Amateur Radio Emergency Service (ARES) is all about. January's presentation will be about the ARES organization and will be your chance to find out more about this very important facet of amateur radio. The speaker will be Jeff Kroger, the Fremont ARES EC. Come to hear Jeff's talk. You might be surprised how much ARES does for the community.

*January, 2006
Volume 7 Issue 1*

**Happy
New Year**

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Articles of Interest

- Upcoming Events
- FAR Scholarships

FAR Scholarships — ARRL, Newington, Ct.

THE FOUNDATION FOR AMATEUR RADIO, INC., a non-profit organization with headquarters in Washington, D.C., plans to administer fifty-four (54) scholarships for the academic year 2006 - 2007 to assist licensed Radio Amateurs. The Foundation, composed of over seventy-five local area Amateur Radio Clubs, fully funds three of these scholarships.

Ten are funded with the income from grants. The remaining forty one (41) are administered by the Foundation without cost to the various donors.

Licensed Radio Amateurs may compete for these awards if they plan to pursue a full-time course of studies beyond high school and are enrolled in or have been accepted for enrollment at an accredited university, college or technical school.

The awards range from \$500 to \$2500 with preference given in some cases to residents of specified geographical areas or the pursuit of certain study programs. Clubs are encouraged to announce these opportunities at their meetings, in their club newsletters, during training classes, on their nets and on their world wide web home pages.

Additional information and an application form may be

requested by letter or QSL card, postmarked prior to April 30, 2006 from:

Diane Zimmerman
AA3OF Chairman Scholarship Committee
FAR Scholarships
Post Office Box 831
Riverdale, MD 20738

The Foundation for Amateur Radio, incorporated in the District of Columbia, is an exempt organization under Section 501(C)(3) of the Internal Revenue Code of 1954. It is devoted exclusively to promoting the interests of Amateur Radio and

those scientific, literary and educational pursuits that advance

the purposes of the Amateur Radio Service.

The Foundation encourages all qualified amateurs to apply for these awards.

(A detailed list of the available scholarships may be found on the web site <http://www.amateurradio-far.org>)

Raffle Prizes

— Gene Arrillaga,
KF6ZYD

January's raffle features an ELK Log periodic antenna with a 7.3 dBd gain, a 28+ dB front to back ratio and a 1:1 SWR on 222-225 MHz.

This antenna would cost you over \$65 from HRO, it could be yours for only a \$5 buy in. In addition we will be offering an Universal Battery Charger from Radio Shack. This charger is

designed to charge 9V batteries as well as D, C, AA, and AAA cells either Nickel-Cadmium or Nickel-Metal Hydride chemistry.

Additional tickets will be available if you wish to increase your chances.

See you Friday.

Sunnyvale VEC Fremont Test Schedule

All Tests Are Given at:
Fremont Fire Admin Training Room
3300 Capitol Avenue
Building "B" Fremont, CA. 94538

January 9	Fremont	7:00 PM
February 13	Fremont	7:00 PM
March 13	Fremont	7:00 PM
April 10	Fremont	7:00 PM
May 8	Fremont	7:00 PM
June 12	Fremont	7:00 PM

Useful Helps — Mike Studer, K6EEP

Firefox

As many of you know Firefox is an open source, free, web browser. It is available for any operating system. I have it running on Mac OSX, Windows 2000, Linux, and Solaris. <http://www.mozilla.com/firefox> Firefox has an extension system that allows you to add useful plugins to your web browser to enhance your online experience. Recently Andy discovered a nice addition that puts solar flux numbers on the bottom edge of the main browser window. <http://tinyurl.com/dvsne> This is very useful in predicting HF propagation conditions for the day. It is a sort of weather report for hams on HF.

Here is a description of the various fields shown in the Firefox extension. I got this nice description off the following web page: <http://www2.rnw.nl/rnw/en/features/media/practical/explanation1.html>

Solar Flux

Solar Flux (SF) is a measurement of the intensity of solar radio emissions at a frequency of 2800 MHz made using a radio telescope located in Ottawa, Canada. Known also as the 10.7 cm flux (the wavelength of the radio signals at 2800 MHz), this solar radio emission has been shown to be proportional to sunspot activity. In addition, the level of the sun's ultraviolet and X-ray emissions is primarily responsible for causing ionization in the earth's upper atmosphere. It is these emissions which produce the ionized 'layers' involved in propagating shortwave radio signals over long distances.

The solar flux number reported in the broadcast is in solar flux units (s. f.u.) and is recorded daily at Ottawa at 1700 UTC to be forwarded to the SESC. Solar flux readings range from a theoretical minimum of approximately 67 to actually-observed numbers greater than 300. Low solar flux numbers dominate during the lower portions of the 11-year sunspot cycle, rising as the cycle proceeds with the average solar flux a fairly reliable indicator of the cycle's long-term behavior. 1 s. f. u. = 10-22Watts/meter² Hz = 104 jansky.



A Index

The A Index is an averaged quantitative measure of geomagnetic activity derived from a series of physical measurements. Magnetometers measure differences between the current orientation of the magnetosphere and compare it to what it would be under 'quiet' geomagnetic conditions.

But there is more to understanding the meaning of the Boulder A index reported in the Geophysical Alert Broadcasts. The Boulder A index in the announcement is the 24 hour A index derived from the eight 3-hour K indices recorded at Boulder. The first estimate of the Boulder A index is at 1800 UTC. This estimate is made using the six observed Boulder K indices available at that time (0000 to 1800 UTC) and the SESC forecaster's best prediction for the remaining two K indices. To make those predictions, SESC forecasters examine present trends and other geomagnetic indicators. At 2100 UTC, the next observed Boulder K index is measured and the estimated A index is reevaluated and updated if necessary. At 0000 UTC, the eighth and last Boulder K index is measured and the actual Boulder A index is produced. For the 0000 UTC announcement and all subsequent announcements the word 'estimated' is dropped and the actual Boulder A index is used.

HFPACK Saturday & Sunday Net Schedule

1130z, 1630z, 2230z UTC on 14342.5 kHz USB
14343.2 CW (Worldwide)

Alternate: 18157.5 kHz USB & 18158.3 kHz CW

HFpack CW Frequencies

Worldwide Primary: 10117.5 kHz CW

14059CW (Worldwide), 18081.5CW (Worldwide)
7038.5 (North America), 7022.5CW (Region 1)

News and Information — <http://www.hfpack.com>

SBARA Programs Survey For 2006 — Board Members

It's a new year for SBARA and the Leadership Team is wondering what you the membership would like to see as meeting programs in 2006. So the board has decided to ask you to give us your ideas and opinions on exciting topics to bring as meeting presentations. At the January meeting on January 13th there will be a suggestion survey passed around for your ideas.

Here are examples:

Amateur Radio is rich with interesting possibilities and depending upon your area of interest. What you as a member would like to see at the meetings will be related to your interests. Topics do group together into broad groups so the survey will be broken down into these broad areas.

<u>GENERAL AREA</u>	<u>TOPIC</u>	<u>YOUR CALL</u>
OPERATING	T-HUNTING	
	DX'ING	
	LOW SIGNAL, EME-METOR - etc	
	SETTING UP A RADIO ROOM	
	CONTESTING	
	DIGITAL MODES	
	SATTELITES	
	PUTTING UP AN HF ANTENNA	
	PROPAGATION	
	THE LIST GOES ON!	
PUBLIC SERVICE	EMERGENCY SERVICE - ARES	
	ZUCCHINI FESTIVAL OTHER EVENTS	
	VE TESTING PROGRAM	
BUILDING		
	HOW TO BUILD A KIT	
	HOW TO CORRECTLY SOLDER	
	BUILDING WITH SMT COMPONENTS	
DESIGNING EQUIPMINT	BUILDING BREADBOARD CIRCUITS	
	HOW TO USE TEST EQUIPMENT	
	CIRCUIT SIMULATION SOFTWARE	
	PROTOTYPING	
	MAKING YOUR OWN PCB'S	

99 Years: First Radio Broadcast of Music

Two days before Christmas in 1906, Canadian-born radio inventor Reginald Fessenden sent a Morse code message from his transmitter in Massachusetts, to the ships of the US Navy and the United Fruit Company, many of whom were using radio equipment he had made them for radio-telegraph. Fessenden's message simply told them to be sure to listen for another message on Christmas Eve.

On 24 December 1906, at 9PM eastern standard time, the radio operators tuned in, and got a big surprise: they heard Fessenden's voice! He then broadcasted music using an Edifone phonograph record of Handel's "Largo". This was followed by the music of Fessenden himself, playing the hymn "O Holy Night" on his violin into one of the transmitter's microphones. The historic music broadcast was heard by radio operators around the east coast of North America, and as far south as the Caribbean. He asked for anyone hearing the broadcast to send him a letter, and he gave his address. Later on, he was pleasantly surprised at the large volume of mail he received from listeners who called the broadcast "real radio".

Fessenden had previously transmitted his voice across the Atlantic in November of 1906, during a radiotelegraph communication between his Massachusetts station and Scotland. So, it would seem like a logical step to broadcast music, right? But in the early 20th century, the value of radio as a broadcast medium was not yet recognized. It was not until the 1920s that Fessenden was vindicated, when radio became commercially viable for broadcasting music and audio programs to a wide audience.

Fessenden's Brant Rock Station was located in the town of Marshfield in Plymouth County, Massachusetts, USA. The station was founded in 1905 with the construction of a 400-foot radio tower. It used a special radio alternator to generate a signal on 80 kilocycles. Fessenden also arranged the construction of a second tower in Macrihanish, Scotland.

Historic photos:

<http://www.hflink.com/fessenden/fessenden.jpg>

http://www.hflink.com/fessenden/tower_fessenden_brant_rock.jpg

http://www.hflink.com/fessenden/fessenden_radio_desk.jpg

http://www.hflink.com/fessenden/brant_rock_radio_station_staff.jpg

6 years earlier, Fessenden's lab at Cobb Island in the Potomac River was the site of his experiments with a new improved radio generator for transmitting to a receiving station 50 miles away at Arlington, Virginia. As early as the spring of 1900, Fessenden had transmitted and received intelligible speech at a distance of one mile. In October 1900, Fessenden experimentally

hooked up a microphone to the improved radio generator system at his Cobb Island station.

On December 23, 1900, Fessenden said into his microphone, "One, two, three, four. Is it snowing where you are Mr. Thiessen? If so, telegraph back and let me know." His assistant, Thiessen, replied by telegraph from 50 miles

away in Morse code, "YES IT IS SNOWING". Excitedly, Fessenden wrote in his notebook, "This afternoon here at Cobb Island, intelligible speech by electromagnetic waves has for the first time in World's History been transmitted." Almost a year after Fessenden transmitted that first human voice by radio, Marconi made his first one-way transatlantic transmission, in Morse code from England to Newfoundland on 12 December 1901.

The microphones Fessenden invented for broadcasting music in 1906 could handle up to 15 Amperes of electric current without burning up!

He used a condenser design and another water-cooled carbon granule design he called a "trough transmitter". But one had to be careful not to get too close to those first Fessenden microphones, because they would scorch the lips of the talker!

73 'es

To and from All the HFpack Group



Membership Renewal Information — Board Members

It's that time of year again. Yes, It's time to re-new your SBARA membership for 2006. On or about January 15th our membership chairperson Syd Furman W6QWK will be mailing renewal invoices with a self-addressed stamped return envelope to every member of record in the SBARA membership database. Be looking for you renewal package in the mail and promptly return your renewal invoice with any necessary correction to your 2005 database information. Oh yes... don't forget the check made out to SBARA! This year you will notice that the return address is to Syd's residence and NOT the SBARA PO BOX. If you do not

receive your package by the end of the month please e-mail Syd at sydneyfurman@yahoo.com and let him know. The leadership team has scheduled a full year of activities so renew your membership and join the fun. SBARA is your association and connection to the Tri-Cities amateur radio community. Looking forward to seeing you again in 2006.

SBARA 2006 Leadership Team

UPCOMING EVENTS

<u>DATE</u>	<u>TIME</u>	<u>EVENT</u>	<u>DETAILS</u>
January 13th	6:00 p.m.	Pre-meeting Dinner	Sweet Tomatoes
January 13th	7:30 p.m.	SBARA General Meeting	Veterans' Hall, Niles
February 3rd	7:30 p.m.	SBARA Board Meeting	Andy Romeril 's House
February 4th	5:00 p.m.	Fremont T-Hunt	Zapotec Dr., Fremont
February 10th	6:00 p.m.	Pre-meeting Dinner	Sweet Tomatoes
February 10th	7:30 p.m.	SBARA General Meeting	Veterans' Hall, Niles
March 4th	5:00 p.m.	Fremont T-Hunt	Zapotec Dr., Fremont
June 23 - June 26		2006 Field Day	Lake Elizabeth

If members have events they want to have included into the table for future issues to send them to stevev@ka6s.com. Please have your submission in by the last day of the month for timely inclusion in the next month's newsletter.

Handy Web Links

SBARA Web Site	http://www.qsl.net/sbara
ARRL Main Site	http://www.arrl.org/
ARRL SCV Division	http://www.arrl.org/sections/SCV.html
ARRL East Bay Section	http://www.pdarrrl.org/ebsec/index.html
ARRL Contest Page	http://www.arrl.org/contests
Contest Calendar	http://www.hornucopia.com/contestcal
Callsign Lookup (QRZ)	http://www.qrz.com/
Vanity Callsign Info	http://www.vanityhq.com/
IRLP Main Page	http://www.irlp.net/
AMSAT	http://www.amsat.org/
FCC Services	http://wireless.fcc.gov/services/amateur

SBARA on the Internet

<http://www.qsl.net/sbara>

On the Air at 147.015 + PL 103.5

Fremont Repeaters & Net Information

WA6PWW - 147.015 +600Khz, PL 103.5
 WA6PWW - 223.900 -500Khz, PL 107.2
 WA6PWW - 442.600 +5Mhz, PL 107.2
 N6OXR - 146.94 -600Khz, PL 123.0
 N6OXR - 441.525 +5Mhz, PL 123.0
 ARES - Tuesday @ 7:30pm - 147.015 + PL 103.5

Groundplane SBARA Newsletter Copyright 2006 SBARA

The Groundplane is published monthly by the South Bay Amateur Radio Association. Articles and letters are always welcome. The normal deadline for material is six days prior to the end of the previous month. Articles can be sent by email to hamradio@comcast.net or via U.S. Mail. Contact the Editor for details and submission guidelines.

The opinions expressed in the Groundplane are strictly those of the authors.

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- CTCSS/DCS Encode/Decode built in

Low Pricing!

The Ground Plane



ANNOUNCEMENTS

SBARA monthly meeting:
January 13th.
Veterans Hall in Niles

SBARA 2006 Kickoff Edition

The Ground Plane—KU6S
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